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FOREIGN ANIMAL  
DISEASES REPORT



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#### HOG CHOLERA ACTIVITIES



In September, after intensive surveillance indicated that the hog cholera outbreaks in New Jersey and New England had been eliminated, the Regional Emergency Animal Disease Eradication Organization (READEO) task forces were disbanded. Intensive surveillance in these areas, however, continues.

The most recent case of hog cholera was disclosed in New Jersey on August 1, 1976, and the last quarantines for hog cholera were released on September 13, 1976.

Task force personnel performed 12,334 herd inspections on 1,627,909 swine. Investigations were made in

590 herds with 256,885 swine; 1,123 herds with 98,255 swine were screened by the serum neutralization test. Approximately 20,000 fluorescent antibody tissue section tests were conducted.

A total of 63 herds with 24,038 swine were depopulated, 16,522 as infected and 7,516 as exposed. The depopulation of exposed herds based on intensive evaluation by epidemiologists and diagnosticians was a significant factor in eliminating the disease.

Cost of indemnity was \$2,933,401, and operating costs were \$2,125,852 for a total of \$5,059,253. Over 50,000 manhours were required to contain the outbreaks.

Surveillance will be continued in New Jersey and certain New England States for at least a year. This will include twice-monthly inspections of herds and once-a-month temperaturing of garbage cookers. In addition, investigations will be conducted in all herds in which sick pigs are reported, and pigs which die from any cause will be necropsied and sampled when possible.

#### POULTRY HEALTH COMMITTEE URGES TIGHTER IMPORT REGULATIONS

The introduction of exotic Newcastle disease by imported poultry, birds, or products, was the main topic of concern to the Advisory Committee on Poultry Health of the United States Department of Agriculture (USDA).

The 16-member committee, representing consumers, the pet bird industry, and all facets of the poultry industry, took a strong stand about possible introduction of foreign poultry diseases into the United States and urged USDA to take stronger measures to insure the safety of domestic poultry, pet, and game birds.

The committee met on October 5, 1976, at the Hyattsville, Maryland, offices of USDA's Animal and Plant Health Inspection Service (APHIS). The committee recommended that USDA stop allowing individuals to bring in caged pet birds unless the birds go through a USDA supervised or operated quarantine station.

The committee also recommended that USDA continue the inspection of all travelers and their baggage coming from Puerto Rico until steps can be taken to eradicate exotic Newcastle disease from that island.

Turning to domestic poultry health problems, the committee urged USDA to request funds to adequately operate its programs to control mycoplasmosis and to conduct disease investigations of turkey and chicken flocks.

Committee members requested that Customs Service officials be invited to the next committee meeting to report on actions being taken to stop the smuggling of birds into the United States.

Subcommittees were formed to study specific problems. These problems will be acted upon by the committee at its next meeting, tentatively scheduled for April 1977. This was the first meeting of the committee, so half the time was devoted to acquainting committee members with actions and regulations used by USDA to protect the \$6 billion poultry industry from foreign and domestic poultry diseases.

## FOREIGN ANIMAL DISEASE SURVEILLANCE

Establishing and maintaining an effective national foreign animal disease surveillance program is essential to detect a foreign animal disease as soon as possible after entry into the United States. In order to increase the awareness of exotic diseases, six foreign animal disease awareness seminars have been conducted at veterinary colleges throughout the United States. During the period July 1, 1976, to September 30, 1976, foreign animal disease surveillance activities resulted in 99 investigations of suspicious foreign animal diseases. These investigations were conducted by 56 foreign animal disease diagnosticians. All 99 investigations were negative for exotic diseases.

On July 27, 1976, in Arkansas, one horse in a herd of four exhibited healing erosions on the lips and tongue with slight muzzle edema. Acute and convalescent serums were submitted from this and three other horses. The original horse was positive at 1:32 on serum neutralization for New Jersey vesicular stomatitis and negative for Indiana vesicular stomatitis. The tests on the sera submitted from the other three horses were negative for vesicular stomatitis. No further evidence of vesicular stomatitis in cattle or swine was revealed during this period.

During the period July 1, 1976, to September 30, 1976, in cooperation with the Plum Island Animal Disease Center (PIADC), Agricultural Research Service (ARS),



46 veterinarians were trained as Foreign Animal Disease Diagnosticians. Participants included veterinarians from State and Federal Health Service agencies as well as veterinarians from four foreign countries. Also during this period, two seminars were held for Foreign Animal Disease Diagnosticians to update their information on foreign animal diseases and the threat which they pose to this country. The development of 10 foreign animal disease films was continued in cooperation with the PIADC, ARS. One film entitled "Swine Vesicular Disease" was completed and distributed. These films are from 12 to 15 minutes in duration and are directed primarily toward professional audiences. It is anticipated that the nine additional films will be completed in 1978.

#### Preparedness for Dealing with Emergency Diseases

The five Regional Emergency Animal Disease Eradication Organizations (READEO's) are fully staffed and trained to respond rapidly to outbreaks of emergency diseases. The Northern READEO was activated twice to eradicate outbreaks of hog cholera in New Jersey, and in the New England States of Rhode Island, Massachusetts, and New Hampshire. Each of these outbreaks was rapidly eliminated; however, intensive surveillance is being maintained to ensure that eradication has been achieved. As a result of this intensive surveillance, two additional infected herds were found: one in Massachusetts on July 17, 1976, and one in New Jersey on August 1, 1976. The READEO was reactivated and these outbreaks were eliminated. In addition to combating actual disease outbreaks, five sections of each READEO, including appraisal, cleaning and disinfection, epidemiology, disease reporting, and disposal, received special training.

#### SAN MIGUEL SEA LION VIRUS AND VESICULAR EXANTHEMA OF SWINE



San Miguel sea lion virus (SMSV) was isolated in 1972 from California sea lions of San Miguel Island, one of the Channel Islands, off the coast of southern California. It is the first virus to have been isolated from pinnipeds, but of particular interest it is indistinguishable from the vesicular exanthema of swine virus (VESV) and, in laboratory studies, it does produce clinical signs of vesicular exanthema of swine (VES) in swine.

In natural outbreaks, VES affects only swine and cannot be differentiated by clinical signs from the other vesicular diseases which affect swine; i.e., foot-and-mouth disease (FMD), swine vesicular disease (SVD), vesicular stomatitis. The history of VES is unique. The entire span of its (known) existence was only 24 and one-half years and observations were recorded from the first cases, which occurred in California in 1932, to the last, which were recurrences on farms in New Jersey in 1956. Epizootics of VES occurred only within the boundaries of California during the first 20 of the 24 and one-half years. A National Eradication program started in 1952, and ending in 1959, cost \$33 million to the Federal government. VES had spread to 40 States before the last case occurred in 1956. It is intriguing that the sources of the original

outbreak, and of subsequent outbreaks, during the early years of the epizootic, were never identified. Also, a reservoir for the VES virus was never found. Moreover, the association of VES outbreaks with the practice of feeding raw garbage to swine was recognized.

SMSV and VES are Caliciviruses, a subgroup of the family Picornaviridae. This subgroup is named for the calyces or cuplike structures seen on the capsid surface of the virus particle and includes only one other member, feline picornavirus. The viruses of FMD and SVD are also picornaviruses, but are in the subgroups Rhinovirus and Enterovirus, respectively.

During the VES epizootic, multiple antigenic types of VESV were identified and 13 types are still maintained in laboratories. Four distinct serotypes of SMSV was isolated from northern fur seals on St. Paul Island, Pribilof Islands, Alaska. The virus has been isolated from the fluid of vesicles which occur on the flippers of sea lions and fur seals and from aborted fetuses and the nose, throat, and rectum of adults. Apparently the virus is endemic in those populations. In addition, SMSV has been isolated from samples taken from a product composed of ground seal carcasses which is utilized as a supplementary feed for commercially raised mink. Retrospective studies found that raw sea lion meat was occasionally used to feed swine in the 1930's.

Serological surveys of a variety of marine mammal species have shown neutralizing antibodies to SMSV in stellar sea lions, northern elephant seals and California gray whales. No antibodies were detectable in the sera from four other species of whales or four other species of pinnipeds. With the exception of the California sea lions and the northern fur seals, the number of animals sampled per species is quite small. However, all five of the marine mammal species with neutralizing antibody titers are common to the California coast and have north-south seasonal migrations that are varied in extent, but overlap.

Feral sheep, goats, and swine are present on some of the Channel Islands in proximity to pinniped rookeries and neutralizing antibodies to SMSV were present in some of the sampled sheep and swine, but not in the goats. This indicates they have either independent or common sources of exposure to SMSV antigens or there has been transmission of the antigen between those terrestrial and marine species.

Because SMSV and VESV are considered identical, it is important to consider that SMSV may pose a threat to domestic swine. Although infected pinnipeds have been shown to be a source of SMSV, it has been suggested that the major reservoir may be fish or other components of the pinnipeds diet. We should be alert to situations wherein swine might be exposed to SMSV and consider SMSV infection in the differential diagnosis of any vesicular disease of swine. Reference: AVMA Journal, October 1976, J. Sawyer.

#### MILITARY SUPPORT FOR EMERGENCY OPERATIONS

Military assistance in time of a national or international emergency is common practice. Throughout our Nation's history there is documented evidence of military operations involving personnel, equipment, and other resources during major disaster conditions such as floods, tornadoes, earthquakes, forest fires, blizzards, droughts, etc.



Military Assistance Plans are currently established for the purpose of responding to worldwide emergency conditions with definitive guidelines for working within the framework of other Federal agencies. Numbered among these numerous assistance programs is a plan based upon a Tri-Service Memorandum of Understanding consummated in 1965 by the Department of Defense (DOD), General Services Administration (GSA), and the United States Department of Agriculture (USDA). The USDA agreed to reimburse DOD and GSA for the expenditures of supplies, equipment, and transportation provided in actual operations incurred in the eradication of any exotic animal disease that threatens the Nation's livestock or poultry industries. This agreement is also applicable to military participation in test exercises established periodically by the USDA.

The assets of utilizing DOD assistance in emergency animal disease eradication programs are readily obvious. A reservoir of professional/technical expertise; air, ground, and water transportation; mobile laboratories; logistical support, and other resources are available, practically at a moments' notice. The augmentation of any or all of these resources could certainly enhance the resolution of problems encountered in an outbreak of a foreign animal disease.

In the 1971 Venezuelan Equine Encephalitis (VEE) epidemic, military veterinarians played a significant role in the success of the task force operations. The VEE vaccine, designed for human use, was developed almost entirely by military personnel. Also, military aircraft were utilized frequently to assist in the control of vector populations. Over 400 military personnel assisted during the exotic Newcastle disease emergency operation in 1972.

The position of military liaison officer was established in 1973 to function as an integral member of Emergency Programs (EP). A U.S. Air Force veterinary officer assigned to this position, serves the Director of EP as a staff member; as a coordinator with DOD officials; as an instructor in courses relating to exotic animal diseases; and other areas requiring military support.

Military support to EP is available when needed, economical as a ready resource, and beneficial to the program.

#### USDA AND OIRSA TO COOPERATE ON ANIMAL DISEASE CONTROL PROGRAMS

The USDA and the Organizacion Internacional Regional Sanidad Agropecuario (OIRSA) have agreed to cooperate in activities to prevent exotic animal diseases from gaining a foothold on the North American continent.

Signing the cooperative agreement between the two organizations were the Administrator of USDA's Animal and Plant Health Inspection Service, and the Executive Director of OIRSA.

OIRSA, an organization of ministries of agriculture of Central American countries, Panama and Mexico, has been coordinating efforts between its member countries to control animal and plant pests and diseases.

Under the new agreement, USDA will provide consultation and technical participation

in jointly-funded animal disease control programs. OIRSA may consult with USDA veterinarians regarding an animal disease problem. USDA would pay salaries of their animal health scientists and OIRSA would assume travel and subsistence expenses.

OIRSA has worked for the prevention, control, and eradication of animal and plant diseases of their region for 20 years. USDA has cooperated with OIRSA for the last 10 years.

#### PAKISTANI SCIENTISTS TO STUDY NEWCASTLE DISEASE UNDER USDA GRANT

A grant to develop vaccines with improved potency and for better protection of poultry against Newcastle disease has been awarded to Pakistan by the USDA. The grant is valued at \$137,257.

USDA's Agricultural Research Service (ARS) administers all foreign agricultural research financed by a special foreign currency program under the Food for Peace Act. This program provides for the use of U.S.-owned foreign currencies which cannot be converted into dollars, but which may be used for scientific research beneficial to U.S. agriculture and American consumers. This grant to the Poultry Research Institute, Karachi, will be paid for with Pakistani rupees available to the United States.

Newcastle is a highly contagious viral disease of poultry. There are different forms of the disease, ranging from mild to fatal. The milder forms, common in the United States since the 1940's, have been controlled with vaccines.

However, these vaccines are less effective against the type of lethal exotic Newcastle disease which invaded California in late 1971. Approximately \$56 million was spent at that time to rid the U.S. of exotic Newcastle disease. The disease is global and is a continuing threat to the United States.

#### EMERGENCY PROGRAMS DATA BANK

The Emergency Programs Data Bank has developed and published bibliographies on Newcastle disease, African Swine Fever, Foot-and-Mouth Disease, Visna-Maedi Complex, Swine Vesicular Disease, Vesicular Exanthema of Swine, and Venezuelan Equine Encephalitis.

These bibliographies represent over 13,000 articles which are contained in the data bank. Persons desiring bibliographies, or specific information contained in the bibliographies may write to: Director, Emergency Programs, 6505 Belcrest Road, Federal Building, Hyattsville, Maryland 20782.



WORLD DISEASE REPORTS\*

Country	Date 1976	New Outbreaks	Country	Date 1976	New Outbreaks
<u>Foot-and-Mouth Disease</u>					
Argentina	Feb.-June 15	277	Ivory		
Bolivia	May-July	4	Coast	February	1
Brazil	April 3-Aug. 20	5,296	Kenya	March-July	22
Colombia	April-August	221	Paraguay	April	11
Ecuador	May-August	29		May 29-July 23	17
Egypt	May 16-31	3	Peru	June	1
	June 15-30	3	Rhodesia	April-July	4
	July-August	5	Spain	April-May	6
Germany	April-May	8	Syria	April	36
Greece	June	1	Tanzania	Jan.-April	7
Hong Kong	May-August	12	Tchad	March-May	1
India	December 1975 -		Thailand	Jan.-February	3
	January 1976	545		March-April	18**
Iran	May-August	37	Turkey	April 16-May 31	131
Iraq	May-August	13		July	127
Israel	April-June	15	Uruguay	January-April	33
Israel (control Territory)			U.S.S.R.	March-July	96
	June-July	5	Venezuela	October -	
Italy	May 16-August 31	44		November 1975	25

Sheep Pox

Egypt	Jan. 16-July 31	1**	Jordan	Feb.-April	8
India	December 1975 -		Kenya	July	2
	January 1976	44	Kuwait	May	7**
Iran	May-August	25		June	1
Iraq	May	34	Morocco	March-May	137
	June-August	862**	Tunisia	July	2
Israel	April-July	4	Turkey	April-July	187
Israel (control territory)			U.S.S.R.	March-July	7
	April-May	4			
	July	5			

Contagious Bovine Pleuropneumonia

Ghana	April-May	4	South		
Ivory	December 1975 -		Africa	April	2
Coast	January 1976	2	Tchad	February	1
				April-May	2

Lumpy Skin Disease

South Africa	April-July	74
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African Horse Sickness

South Africa	April-July	3	Swaziland	April	1
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Dourine

South Africa	April-July	4
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African Swine Fever

Portugal	June-July	132	Spain	April-July 15	208
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Teschen Disease

Austria	June 1-July 15	1
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Swine Vesicular Disease

Austria	April 16-May 15	1	Italy	August 16-31	1
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( \*Extracted from International Office of Epizootics, Monthly Circular, Numbers 354, 355, 356, 357).  
(\*\*Cases).

CORRECTION

It was incorrectly reported in the last issue of this report that Botswana had three new outbreaks of foot-and-mouth disease in November 1975.

Botswana has had no new outbreaks of foot-and-mouth disease since 1968.

HAVE A MERRY CHRISTMAS AND A HAPPY NEW YEAR!